

**CLAIMS**

I claim:

1. A mist-spraying apparatus primarily but not exclusively for use in an enclosed space comprising

an air-blowing means with an outlet conduit through which air can be blown into the space and an inlet conduit through which air from within the space can be drawn for blowing through the outlet conduit to circulate within the space;

a spraying means comprising a pump for delivering liquid from a reservoir to an atomizing nozzle for spraying the liquid into the space in the form of an atomized mist, the atomizing nozzle being located within the outlet conduit so that atomized particles emitted by the atomizing nozzle are entrained in the airstream emitted by the air-blowing means and thereby distributed evenly throughout the space; and

a control means for controlling operation of the air-blowing means and the spraying means that is adapted to commence operation of the air-blowing means prior to operation of the atomizing nozzle and to continue operation of the air-blowing means after operation of the nozzle has ceased in order to continue circulation of the air and any atomized particles entrained therein around the space for a predetermined period of time.

2. An apparatus as claimed in Claim 1 wherein the atomizing nozzle is -located centrally within the outlet conduit.

3. An apparatus as claimed in Claim 1 or Claim 2, wherein the outlet conduit has a rectangular cross-sectional profile.

4. An apparatus as claimed in any of Claims 1 to 3 wherein the outlet conduit defines a slot so that the airstream emitted into the space is in the form of a slot-jet.

5. An apparatus as claimed in any of Claims 1 to 4 wherein the atomizing nozzle is inset within the outlet conduit.

6. An apparatus as claimed in any of Claims 1 to 6, wherein a spraying tip of the nozzle is inset by at least 25 mm and by no more than 40 mm into the outlet conduit.

7. An apparatus as claimed in any of Claims 1 to 6, wherein the air- blowing means is provided with a source of steam whereby steam is additionally blown into the enclosed space via the outlet conduit.

8. An apparatus as claimed in any of Claims 1 to 7 wherein the atomizing nozzle comprises a 60° solid cone nozzle.

9. An apparatus as claimed in any of Claims 1 to 8, wherein the spraying means is adapted is adapted to spray at least 11 liters of liquid-per hour at a pressure of  $7 \times 10^5 \text{ N per m}^2$  (7 bar).

10. An apparatus as claimed in any of Claims to 9, wherein the air- blowing means comprises a cylindrical fan.

11. An apparatus as claimed in any of Claims to 10, which is located in proximity close to the ceiling at the top of a wall of the enclosed space.

12. A mist-spraying apparatus as claimed in any of Claims to wherein the reservoir contains a mixture of an oil and an aqueous solution.

13. A mist-spraying apparatus as claimed in Claim 12, wherein the oil comprises monopropylene glycol or monoethylene glycol.

14. A mist-spraying apparatus as claimed in Claim 12 or Claim 13, wherein s to 11, wherein the mixture comprises less than 1 part oil to every 100 parts aqueous solution by volume.